920673-95178

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of	:	Neil O'Connor
Serial No.	:	10/723,507
Filed	:	November 26, 2003
For	:	Method and System for Distributing Contact within a Network
Examiner	:	Chiragr Patel
Confirmation No.	:	8999
Art Unit	:	2454
Customer number	:	23644

DECLARATION OF NEIL O'CONNOR

Neil O'Connor, declares as follows:

1. He is one of the inventors of the above-entitled pending United States patent application.

2. The invention of this application was made prior to June 27, 2003. Attached as Exhibit A is an invention disclosure that was submitted by him and his co-inventors, Arik Elberse and Michael Hartman, to their employer and the assignee of the present application, Nortel Networks Ltd. That disclosure was submitted to Nortel on June 23, 2003 and thoroughly explains the invention of this application.

3. The invention disclosure was then internally reviewed by Nortel. On August 11, 2003, he, and his co-inventors, was advised that the invention of Exhibit A was approved for the filing of a patent application. Attached as Exhibit B is an e-mail memorandum that was received to that effect.

4. The invention disclosure of exhibit A was then transmitted by Nortel to outside counsel for preparation of a patent application. Attached as Exhibit C is a letter of August 15, 2003 to Phillip Coyle of F.R. Kelly & Co. who then proceeded with preparation of the patent application of the present application. Exhibit C also sets forth proposed date that Nortel desired, leading to the filing of this application.

5. The application was then prepared, and as the declaration for the application indicates, he signed the declaration for the application on October 23, 2003, as did his co-inventors, Arik Elberse and Michael Hartman.

He further declares that all statements declared herein of his own knowledge are true and that all statements made on information and belief and believed to be true; and further that these statements are made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. Section 1001 and that such wilful false statements may jeopardize the validity of this application or any patent issued thereon.

Date: 18th Aug 2009

Neil O'Connor

EXHIBIT A

Invention Disclosure Submission Reply

Disc No:	16224ID		Received Date:	27 jun 2003
Disclosure Title:	Auctioneer Networking For Contact Centers			

---=== **Inventors** ===---

Global Id	Name	Work Info	Home Info
1670864	HR Name: O'CONNOR, NEIL Known As: NEIL Email: neilo@europem01.nt.com Mgr First Name: DAVID Mgr Last Name: O'CONNELL Mgr Global ID: 0400837	Location: INDUSTRIAL ESTATE MERVUE GALWAY IRELAND Location Code: GAL Dept: GL16 Phone: 5702885 Ext Phone: 0035391732885 Fax: Ext Fax: MailStop: Citizenship: IRELAND	Address: 37 CARRAIG MOR, LACKAGH, CO. GALWAY, GALWAY IRELAND Phone: 0
0400916	HR Name: ELBERSE, ARIK Known As: ARIK Email: elberse@europem01.nt.com Mgr First Name: MICHAEL Mgr Last Name: CONROY Mgr Global ID: 0400719	Location: INDUSTRIAL ESTATE MERVUE GALWAY IRELAND Location Code: GAL Dept: GL01 Phone: 5703418 Ext Phone: +353 (91) 73 3418 Fax: +353 (91) 73 3180 Ext Fax: +353 (91) 73 3180 MailStop: Citizenship: IRELAND	Address: 102 CLYBAUN HEIGHTS, KNOCKNACARRA, GALWAY, GALWAY IRELAND Phone: 0
0141677	HR Name: HARTMAN, MICHAEL Known As: MICHAEL Email: michael.hartman@europem01.nt.com Mgr First Name: DAVID Mgr Last Name: O'CONNELL Mgr Global ID: 0400837	Location: INDUSTRIAL ESTATE MERVUE GALWAY IRELAND Location Code: GAL Dept: GL16 Phone: 5703050 Ext Phone: +35391733050 Fax: Ext Fax: MailStop: Citizenship: CANADA	Address: 5 KILTIERNAN EAST, KILCOLGAN IRELAND, GALWAY IRELAND Phone: ()35391796473

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---=== Attachments ===---

File Name	File Type	File Comments
Auctioneer_Networking.ppt	Microsoft Powerpoint (*.ppt)	

<End of Attachments>

Were there additional inventors involved:	yes	Was there contractor involvement:	no
Name of Supervisor or Divisional Head:		Name of VP:	
DAVE O'CONNELL		ROXANN SWANSON	
LOB:	ENTERPRISE NETWORKS	Business Unit:	ENTERPRISE NETWORKS
Conception Date:			

Has this invention been discussed with others? If so, please complete:			
Inside Nortel - Whom?		Outside Nortel - Whom?	
Inside Nortel - When?		Outside Nortel - When?	
NDA?	no		

Are you aware of any imminent future disclosures? Please provide dates and details:
No

Keywords for Searching	Products that will use this invention:
	SCCS; SYMPOSIUM;

Does this invention arise from any arrangement involving an external organization?	no
Is this invention relevant to a Standards Activity?	Internal Funding Project #:
no	34856

Technical Information

Brief Description of the Invention:

This invention is concerned with the networking of contacts across multiple nodes in a distributed contact center environment. The aim of this invention is to drive cost and quality efficiencies in the allocation of contacts.

The thrust of this invention is the support of a competitive, dynamic, bidding process lasting a number of seconds, before contacts are awarded to a specific node in the network by the originating node. The award of the contact is based on a business formula contained in the contact itself. Competing nodes have the opportunity to detect all rival bids on the network and submit updated bids.

The invention is also applicable to a more collaborative environment, where an indvidual company with multiple nodes might wish to base its routing decision on providing QoS to important customers. For example, by dynamically finding a scarce skillset somewhere in its network.

The description in this disclosure uses JavaSpaces technology as a vehicle for describing the principles of operation of this invention. However the operation is not limited to use of Spaces. For example, a database with several network connections could serve much the same purpose as the Spaces-based "Networking Cluster" in the diagram provided.

Problem Solved by the Invention:

Solutions that have been tried and why they didn't work:

Networking based on static, rules-based logic.

Specific elements or steps that solved the problem, and how they do it:

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Note that the slides attached to this disclosure contain a useful diagram.

In the context of the description, the "Networking Cluster" can refer to any network-visible repository for object exchange. All nodes have visibility to the artifacts placed into this repository.

In the diagram attached, all objects in the red box are visible to all nodes. The blue boxes represent separate call center nodes.

1. When a contact is to be networked, a "Request For Proposal" (RFP) object is written to the "Networking Cluster".

2. Other networked nodes examine the attributes of the offered contact, which are present in the RFP.

3. Nodes submit bids for this contact, based on the data they see in the RFP object.

4. The originating WF instance should allow some reasonable period before closing the auction. This is so that the bidding process can be effective. Possibly 2 ? 10 seconds.

5. The originating WF instance selects the bid with the winning "score", and awards the contact to that node by assigning the appropriate nodeID to the "destination" field of the contact object, and the writing the contact object into the "Networking Cluster".

Notes Regarding The RFP Object
============================

1. The RFP object contains information such as the skillset and media type of the contact on offer.

2. The RFP object contains a formula - based on the offering Workflow?s own business rules - for calculating a "score". The formula would factor in cost, service-level or other items which influence who will be awarded the contact.
Nodes are in a position to see the competing bids, and submit lower bids if they wish.

3. Bids may optionally contain full information about service level offered and cost (not just the overall "score"). This means that a node which is good on cost, but loses bids because of lower service level can easily obtain the data necessary to improve its chances of winning more business.

Commercial value of the invention to Nortel and Nortel's major competitors:
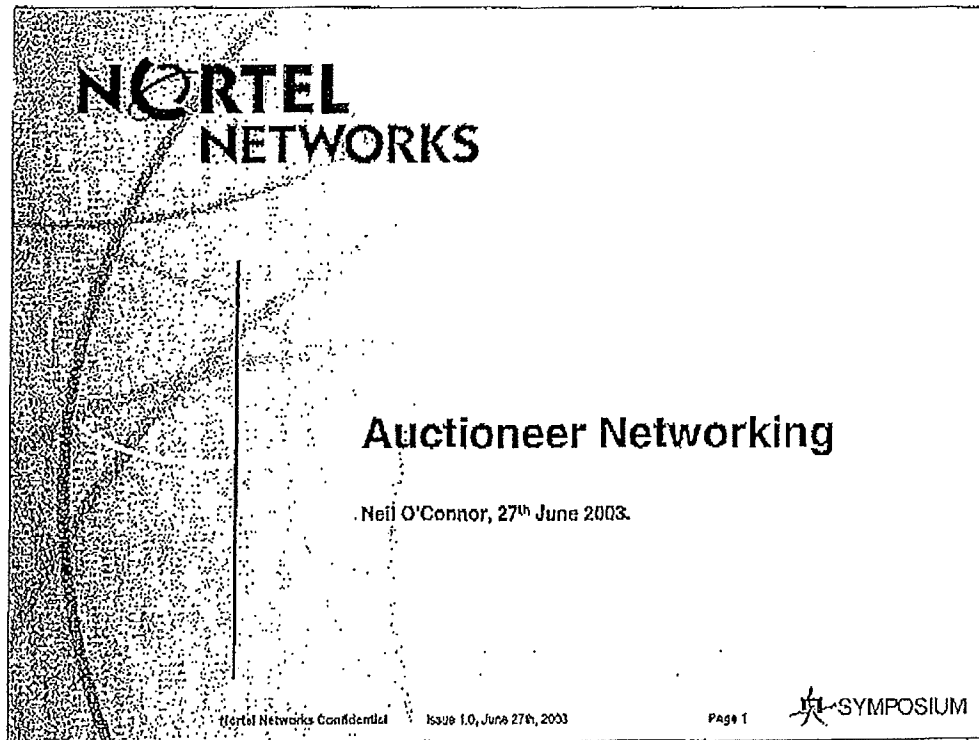
This invention provides a mechanism for enabling competition between rival contact center service providers on a contact-by-contact basis. This will drive down costs for the individual responsible for the contact.

This invention provides a learning mechanism for process improvement for nodes competing for contact business. Based on the results of bids (won or lost), the weighting of the originating node's requirements (e.g. service level, cost etc) can become known and bidders can streamline their operation to suit the market for contacts.

The topology of this arrangement is Peer To Peer, and therefore highly scalable. Because the calculation of the bid value is delegated to the RFP object, new bidders must supply their own additional processing power, instead of making demands on the existing nodes. There is no need for any ?central? entity in this arrangement. Any dedicated network-wide reporting is easily achieved by observing the activity in the Networking Cluster.
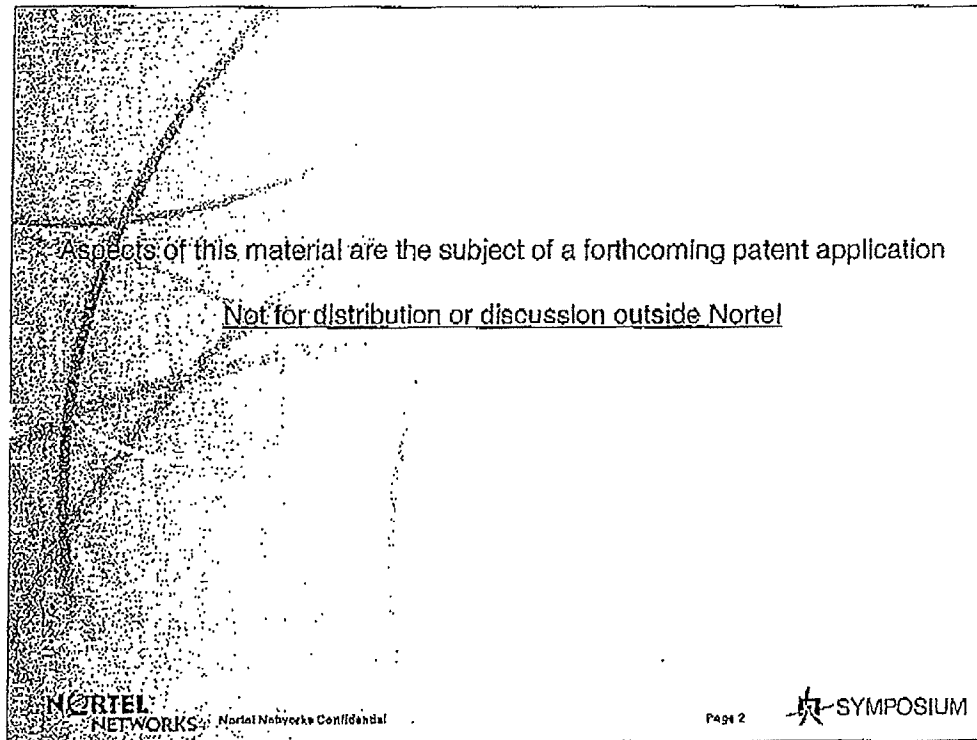
See slide for version information

- The notes pages provide additional information for the instructor, or for handouts.

See slide for version Information

Aspects of this material are the subject of a forthcoming patent application

Not for distribution or discussion outside Nortel

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See slide for version Information

Background

- Assume that a networked Symposium call center is in existence.
- Each node has WF, CM, MMQ, CTI, SWCP instances.
- A peer-to-peer cluster of JavaSpaces is used, provided by GigaSpaces replication service.
- The Node boxes in blue in the diagram below contain a nodal cluster of spaces, not shown for clarity. Each WF, CM, MMQ, CTI, SWCP instance has access to a local space for performance reasons.
- Each WF instance has a proxy object for accessing its local (nodal) cluster, and a second proxy object for accessing the "Networking Cluster".

- The above serves as the platform for this proposal.

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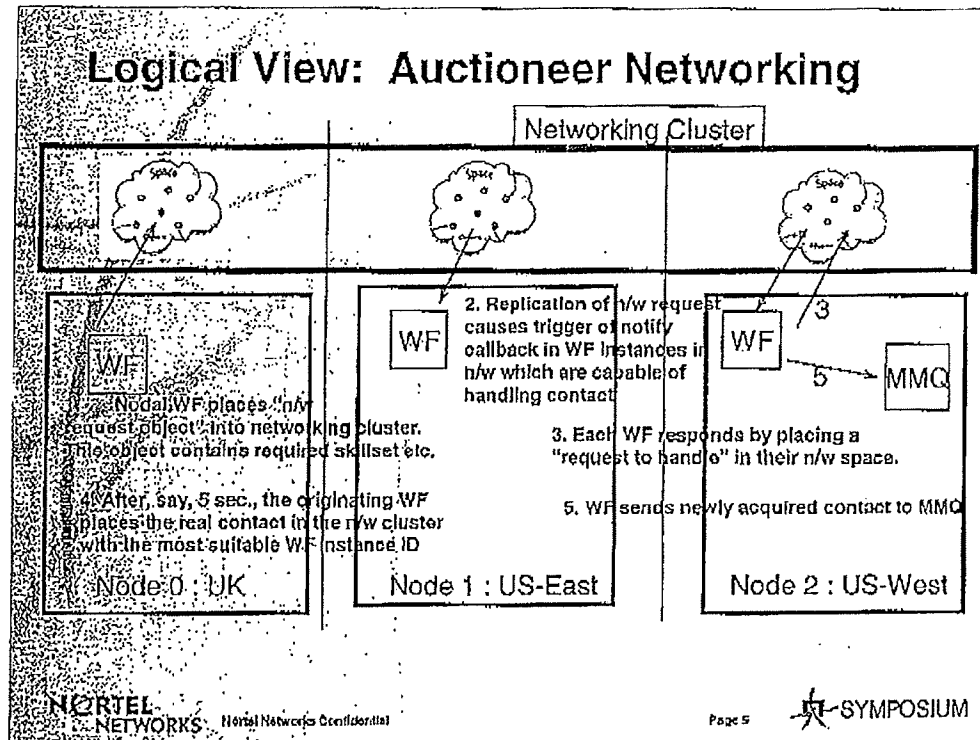
See slide for version information

Proposal

- When a contact is to be networked, a "Request For Proposal" (RFP) object is written to the "Networking Cluster".
- Other networked nodes examine the attributes of the offered contact, which are present in the RFP.
- Nodes submit bids for this contact, based on the data they see in the RFP object.
- The originating WF instance should allow some reasonable period before closing the auction. This is so that the bidding process can be effective. Possibly 2 – 10 seconds.
- The originating WF instance selects the bid with the winning "score", and awards the contact to that node by assigning the appropriate *nodeID* to the *"destination"* field of the contact object, and the writing the contact object into the "Networking Cluster".

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See slide for version information

See slide for version information

RFP Object

- The RFP object contains information such as the skillset and media type of the contact on offer.

- The RFP object contains a formula - based on the offering Workflow's own business rules - for calculating a "score". The formula would factor in cost, service level or other items which influence who will be awarded the contact.

- Nodes are in a position to see the competing bids, and submit lower bids if they wish.

- Bids may optionally contain full information about service level offered and cost (not just the overall "score"). This means that a node which is good on cost, but loses bids because of lower service level can easily obtain the data necessary to improve its chances of winning more business.

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See slide for version information

Auctioneer Networking : Implementation

- Service providers can be asked to bid for individual contact objects, the originating WF instance awards the contact to the lowest bidder.

- It is the responsibility of the bidding nodes to determine what their lowest bid can be. The originating node does not attempt to provide an estimate of how long it will take to service the contact.

- For example, when bidding on an RFP with *skillset = Tech Support* and *knowledge area = RMI Externalisation*, it's up to the nodes to realise that this will likely take more than the average talk time.

- If only a small number of contacts are being networked, the "Networking Cluster" can be reduced to a single space.

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See slide for version information

Auctioneer Networking : Implementation

- This system is applicable to very competitive environments, where 2 competing service providers will bid for business mostly based on cost.

- It is also applicable to a more collaborative environment, where an indvidual company with multiple nodes might wish to base its routing decision on providing QoS to important customers. For example, by dynamically finding a scarce skillset somewhere in its network.

- The design is highly scalable, as its topology is Peer To Peer in nature. New nodes can be added without placing more demand on existing nodes or any central entity.
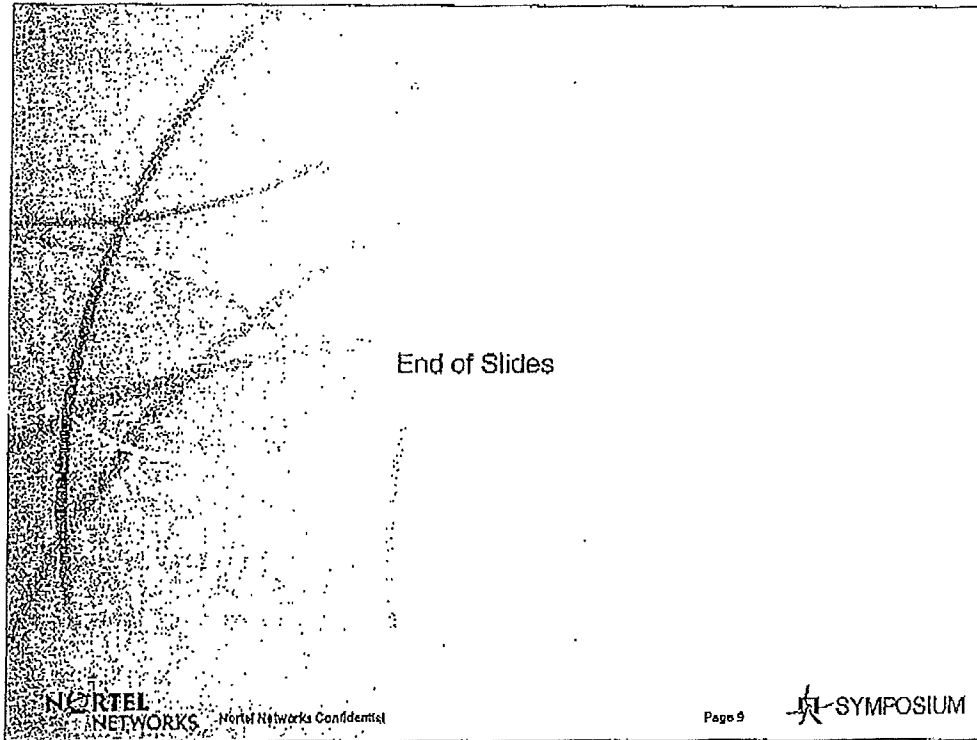
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See slide for version information

End of Slides

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Intellectual Property Law Group
London Road
Harlow
Essex CM17 9NA
United Kingdom

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Fax Cover Sheet

Date	15 August 2003	No. of Pages To Follow	18
To	Philip Coyle	From	Nicola Stripp
Fax #	00 353 1 614 4756	Fax #	(0)1279 405670
Phone #	-------	Phone #	(0)1279 405690
Message	Preparation of New US Patent Application Nortel Networks Limited		

Please see the attached.

Treatment of Originals:

_____ Retained on File   ___X___ Sent by Post   _____ Sent by Courier

For enquiries about this transmission, please call Nicola Stripp at (01279) 40-5690 (ESN 742)

EXHIBIT B

Memorandum by Email

Our Ref	RF/KL/16224ID
Date	11 August 2003
To	Neil O'Connor GAL
	Arik Elberse GAL
Copy	Records Administrator HAL 02
From	Rachel Free HAL 02
Subject	**Invention Disclosure Approved**

Invention Disclosure No. : 16224ID
Title :   **"Auctioneer Networking for Contact Centers"**
Line of Business :   **Enterprise Networks**

The above-identified invention disclosure was recently reviewed in accordance with the invention disclosure review process approved by the appropriate LOB, and the filing of a patent application was approved.

I will be contacting you to discuss the invention in order to prepare an accurate, detailed patent application. Once a regular patent application is filed, you may be eligible for a patent award under Nortel Networks' Corporate procedure No. 401.01.

As an inventor on a U.S. patent application you have duties which include the following:

1. Providing sufficient information on the invention in the patent application to enable one of ordinary skill in the area of the invention to make and use the invention; and

2. Disclosing prior art (e.g. public information or references) that is relevant to the invention.

I will further discuss both of these duties with you prior to filing the application.

While the patent application for the invention is a legal document, it is also a technical document. If it is technically deficient in describing the invention, it can impact the validity of the patent that issues from the application. You should therefore feel comfortable with and understand the patent application. If you do not, then please work with me to make the application technically accurate.

Please remember that the invention is Nortel Networks confidential and proprietary information and should be safeguarded against unauthorized disclosure. Any disclosure outside Nortel Networks could have adverse legal effects on the company's ability to secure patent rights for the invention. Accordingly, it is important that you advise me well in advance of any planned public disclosure of the invention. Should any public disclosure of the invention have already occurred, or is planned to occur, please notify me so that appropriate steps can be taken to potentially avoid adverse legal consequences.

Thank you again for your submission. Your support of the invention disclosure process is greatly appreciated.

Regards

14/10/03

EXHIBIT C

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NETWORKS

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Angela Anderson
Director of Intellectual Property
Law (Europe)
Intellectual Property Law Group

Date :   15 August 2003

Our Ref : AA/NAS/16224ID
Your Ref : ----

F R Kelly & Co
27 Clyde Road
Ballsbridge
Dublin 4
Ireland

Attention: Philip Coyle

Sent by Facsimile
00 353 1 614 4756

Dear Philip,

Preparation of New US Patent Application
Nortel Networks Limited

Draft Required by : 15 October 2003
Required Filing Date : 15 November 2003

I enclose a new invention disclosure for which I would like you to prepare and file in the United States Patent and Trademark Office (USPTO) a patent application in accordance with Nortel Networks' guidelines.

Please ensure that when you meet with the inventor(s) they are advised of their responsibilities regarding their duty of candor to the USPTO, as well as any other relevant rules and/or laws including the best mode requirement.

We also ask that you quickly review the contents of this letter and its enclosures to ascertain whether or not any bar dates appear to be imminent. If so, we ask that you develop a plan of action to protect Nortel Networks' intellectual property rights in the invention disclosure.

Please send a substantially complete draft application to the Nortel Networks Servicing Attorney and the above-referenced inventors by the date identified above. If you foresee any problems with meeting this date or have any problems obtaining information from the inventor(s) please let us know as soon as possible.

Upon filing the application with the USPTO, please immediately fax a copy of the transmittal letter and declaration to us, so that we may update our records to show that the application has been filed.

Page 2

I would be grateful if you would confirm receipt of this letter, informing us of your own file reference, by return facsimile. Should you have any questions, please do not hesitate to contact Nicola Stripp on 01279 405690.

Yours sincerely,

Angela Anderson

encs: Invention Disclosure No. 16224ID
         Patent Application Checklist

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PATENT APPLICATION
PREPARATION INFORMATION

Invention Disclosure No	16224ID
Title	Auctioneer Networking For Contact Centers
Inventors	Neil O'Connor Arik Elberse Michael Hartman
Nortel Networks Servicing Attorney	Rachel Free (01279 405677)

Inventor to be Contacted by	29 August 2003
Draft Required by	15 October 2003
Required Filing Date	15 November 2003
Request and Certification under 35 USC 122 (b)(2)(B)(i) required?	No

Special Instructions	None

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Nortel Networks Drafting Attorney's
Patent Application Checklist

{To be completed by an Drafting Attorney}

Nortel Reference No.: 16224ID	Firm: F R Kelly & Co
Nortel Resp. Atty/Agent: Rachel Free	Firm Reference No.:
Reviewer:	Firm Attorney/Agent: David Brophy
Review Date:	

· A Checkmark in the Box Indicates this Question has been Considered

1. The Background states a problem.	
2. The Summary states a solution to the problem. {Note: The Background and Summary should "tell-the-story" of the invention.}	
3. The claims include appropriate apparatus, method, computer readable media and signal claims.	
4. There is at least one claim that a single party can infringe (i.e., if a radio communications invention, it is possible to claim just the radio or just the infrastructure).	
5. The broadest claims use the broadest language possible and avoid unnecessary limitations.	
6. The scope of the broadest claim covers the broadest inventive concept.	

Comments:

_____
_____
_____
_____

I have reviewed a substantially complete draft patent application for the above-identified Nortel Networks disclosure in view of each of the above questions prior to providing the application to the Nortel Networks Patent Professional.

Signed:_____   Date:_____

Revised April 25, 1999